

second input torque estimating unit for estimating a second input-torque of said automatic transmission using a torque-converter characteristic;

deviation calculating unit for calculating a deviation of said first estimated input-torque and said second estimated input-torque; and

correcting unit for correcting said first estimated input torque using said deviation.

9. (Amended) Torque estimation system according to claim 8, further comprising:

output torque estimating unit for estimating an output torque of said automatic transmission using said corrected first estimated input torque and a transmission ratio.

10. (Amended) Torque estimating unit according to claim 9, further comprising:

acceleration estimating unit for estimating a vehicle acceleration;

running load estimating unit for estimating a running load using a vehicle speed, said acceleration and said output torque.

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11. (Amended) Torque estimating unit according to claim 10, further comprising a transmission ratio control unit for controlling a transmission ratio of a vehicle according to said running load.

Please add new claim 12 as follows:

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--12. A method of estimating an input torque for use in controlling an automatic transmission of a vehicle, the method comprising the acts of:

- estimating a first input-torque of said automatic transmission using an engine torque characteristic;
- estimating a second input-torque of said automatic transmission using a torque-converter characteristic;
- calculating a deviation of said first estimated input-torque and said second estimated input-torque; and
- correcting said first estimated input-torque using said deviation.--
